

OMB No. 0651-0011

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<b>INFORMATION DISCLOSURE STATEMENT</b>	<b>Atty. Docket No.:</b> 150.0088 0103	<b>Serial No.:</b> 10/045,345
	<b>Applicant(s):</b> Derderian et al.	<b>Confirmation No.:</b>
	<b>Filing Date:</b> 25 October 2001	<b>Group:</b> 2818

## U.S. PATENT DOCUMENTS

Examiner Initial	Copy Enclosed	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
P.D.		5,068,199	11/26/91	Sandhu	—	—	
		5,130,172	07/14/92	Hicks et al.	—	—	
		5,130,885	07/14/92	Fazan et al.	—	—	
		5,314,727	05/24/94	McCormick et al.	—	—	
		5,318,920	06/07/94	Hayashide	—	—	
		5,342,800	08/30/94	Jun	—	—	
		5,352,488	10/04/94	Spencer et al.	—	—	
		5,372,849	12/13/94	McCormick et al.	—	—	
		5,372,962	12/13/94	Hirota et al.	—	—	
		5,392,189	02/21/95	Fazan et al.	—	—	
		5,427,974	06/27/95	Lur et al.	—	—	
		5,510,651	04/23/96	Maniar et al.	—	—	
		5,520,992	05/28/96	Douglas et al.	—	—	
		5,555,486	09/10/96	Kington et al.	—	—	
		5,566,045	10/15/96	Summerfelt et al.	—	—	
		5,561,307	10/01/96	Mihara et al.	—	—	
		5,581,436	12/03/96	Summerfelt et al.	—	—	
		5,608,247	03/04/97	Brown	—	—	
		5,612,560	03/18/97	Chivukula et al.	—	—	
		5,696,014	12/09/97	Figura	—	—	
		5,763,633	06/09/98	Vaartstra	—	—	
		5,874,364	02/23/99	Nakabayashi et al.	—	—	
		5,877,063	03/02/99	Gilchrist	—	—	
P.D.		5,935,648	08/10/99	Roberson et al.	—	—	

EXAMINER

PHUC T. DANG

Date Considered

7/18/2003

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PD		5,959,327	09/28/99	Sandhu et al.	—	—	
✓		5,962,065	10/05/99	Weimer et al.	—	—	
		5,962,716	10/05/99	Uhlenbrock et al.	—	—	
		5,980,983	11/09/99	Gordon	—	—	
		5,985,714	11/16/99	Sandhu et al.	—	—	
		5,990,559	11/23/99	Marsh	—	—	
		6,015,743	01/18/00	Zahurak et al.	—	—	
		6,037,220	03/14/00	Chien et al.	—	—	
		6,049,101	04/11/00	Graettinger et al.	—	—	
		6,060,367	05/09/00	Sze	—	—	
		6,060,351	05/09/00	Parekh et al.	—	—	
		6,063,705	05/16/00	Vaartstra	—	—	
		6,074,945	06/13/00	Vaartstra et al.	—	—	
		6,078,072	06/20/00	Okudaira et al.	—	—	
		6,114,557	09/05/00	Uhlenbrock et al.	—	—	
		6,133,159	10/17/00	Vaartstra	—	—	
		6,197,628	03/06/01	Vaartstra et al.	—	—	
PD	X	6,281,125	08/28/01	Vaartstra et al.	—	—	

## FOREIGN PATENT DOCUMENTS

Examiner Initial	Copy Enclosed	Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
PD		JP 10163131	06/19/98	Japan (Abstract)				
PD		WO 00/22658 A	06/20/00	PCT				
PD	X	WO 01/95376 A2	12/13/01	PCT				

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**OTHER DOCUMENTS (Including Authors, Title, Date, Pertinent Papers, etc.)**

Examiner Initial	Copy Enclosed	Document Description
PD		Anderson et al., "Carborane Complexes of Ruthenium: A Convenient Synthesis of $[\text{Ru}(\text{CO})_2(\eta^5\text{-7,8-C}_2\text{B}_9\text{H}_{11})]$ and a Study of Reactions of This Complex," <i>Organometallics</i> , 14, 3516-3526 (1995).
		Aoyama et al., "Chemical Vapor Deposition of Ru and Its Application in $(\text{Ba,Sr})\text{TiO}_3$ Capacitors for Future Dynamic Random Access Memories," <i>Jpn. J. Appl. Phys.</i> , 38:2194-2199 (1999).
		Bai et al., "Low-temperature growth and orientational control in $\text{RuO}_2$ thin films by metal-organic chemical vapor deposition", <i>Thin Solid Films</i> , 310, 75-80 (1997).
		Bennett et al., "Mono-olefin Chelate Complexes of Iron(0) and Ruthenium(0) with an Olefinic Tertiary Phosphine," <i>J. Chem. Soc. D.</i> , 7, 341-342 (1971).
		Cowles et al., "Relative Reactivity of Co-ordinated Ligands in the Dienyltricarbonyl-ruthenium Cation, $[(\text{dienyl})\text{Ru}(\text{CO})_3]^+$ ," <i>Chemical Commun.</i> , 392 (1969).
		Green et al., "Chemical Vapor Deposition of Ruthenium and Ruthenium Dioxide Films," <i>J. Electrochem. Soc.</i> , 132, 2677-2685 (1985).
		Igumenov, "MO CVD of Noble Metals", <i>J. De Physique IV</i> , 5, C5-489-C5-496 (1995).
		Johnson et al., "Chemistry," <i>Nature</i> , 901-902 (1967).
		Kaeszt et al., "Low-Temperature Organometallic Chemical Vapor Deposition of Transition Metals," <i>Mat. Res. Soc. Symp. Proc.</i> , 131, 395-400 (1989).
		Kawahara, Takaaki et al., " $(\text{Ba, Sr})\text{TiO}_3$ Films Prepared by Liquid Source Chemical Vapor Deposition on Ru Electrodes," <i>Jpn. J. Appl. Phys.</i> , 35: 4880-4885 (1996).
		Liao et al., "Characterization of $\text{RuO}_2$ thin films deposited on Si by metal-organic chemical vapor deposition," <i>Thin Solid Films</i> , 287, 74-79 (1996).
PD		Macchioni et al., "Cationic Bis- and Tris( $\eta^2$ -(pyrazol-1-yl)methane) Acetyl Complexes of Iron (II) and Ruthenium (II): Synthesis, Characterization, Reactivity, and Interionic Solution Structure by NOESY NMR Spectroscopy," <i>Organometallics</i> , 16, 2139-2145 (1997).

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	Applicant(s): Derderian et al.	Confirmation No.:
	Filing Date: 25 October 2001	Group: 2818

Examiner Initial	Copy Enclosed	Document Description
PD A		Nakamura et al., "Embedded DRAM Technology compatible to the 0.1 $\mu$ m high-speed Logics by using Ru pillars in cell capacitors and peripheral vias," <i>IEEE</i> (1998). #3 IDS
		Park et al., "Metallorganic Chemical Vapor Deposition of Ru and RuO <sub>2</sub> Using Ruthenocene Precursor and Oxygen Gas," <i>J. Electrochem. Soc.</i> , 147:203-209 (2000). M. J. Pearson 1/6/02
		Senzaki et al., Chemical Abstract 128:264103, <i>Proc. Electrochem. Soc.</i> , 97-25 (Chemical Vapor Deposition), 933-43 (1997).
		Shin, "Characterization of RuO <sub>2</sub> Thin Films Prepared by Hot-Wall Metallorganic Chemical Vapor Deposition," <i>J. Electrochem. Soc.</i> , 144, 1055 (1997).
		Sosinsky et al., "Hydrocarbon Complexes of Ruthenium. Part IV. Cyclic Dienyl Complexes", <i>J. Chem. Soc.</i> , 16-17, 1633-1640 (1975).
		Takagi et al., "RuO <sub>2</sub> Bottom Electrodes for Ferroelectric (Pb, La)(Zr, Ti)O <sub>3</sub> Thin Films by Metalorganic Chemical Vapor Deposition", <i>Jpn. J. Appl. Phys.</i> , 34, 4104-4107 (1995).
		Versteeg et al., "Metalorganic Chemical Vapor Deposition By Pulsed Liquid Injection Using An Ultrasonic Nozzle: Titanium Dioxide on Sapphire from Titanium (IV) Isopropoxide," <i>Journal of the American Ceramic Society</i> , 78, 2763-2768 (1995).
		Yuan, "Low-Temperature Chemical Vapor Deposition of Ruthenium Dioxide from Ruthenium Tetroxide: A Simple Approach to High-Purity RuO <sub>2</sub> Films," <i>Chem. Mater.</i> , 5, 908 (1993).
PD		Yang, Doo Young et al., "Characterization of Ru Electrodes for Ru/(Ba,Sr)TiO <sub>3</sub> /Ru Capacitors," <i>Ferroelectrics</i> , 1996. ISAF '96: Proceedings of the Tenth IEEE International Symposium on Applications of Ferroelectrics" New York, NY, August 18, 1996; pgs. 515-518.

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**INFORMATION  
DISCLOSURE  
STATEMENT**

Atty. Docket No.: 150.00880103

Serial No.: 10/045,345

Applicant(s): Derderian et al.

Confirmation No.: 1310

Application Filing Date: 25 October 2001

Group: 2818

Information Disclosure Statement mailed: December 12, 2002

**U.S. PATENT DOCUMENTS**

Examiner Initial	Copy Enclosed	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
PD	X	6,337,238	01/08/02	Nakabayashi			

**FOREIGN PATENT DOCUMENTS**

Examiner Initial	Copy Enclosed	Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
		None						

**OTHER DOCUMENTS (Including Authors, Title, Date, Pertinent Papers, etc.)**

Examiner Initial	Copy Enclosed	Document Description
		None

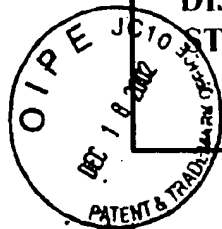
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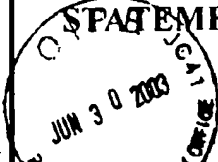
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<b>SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT</b> 	Atty. Docket No.: 150.00880103	Serial No.: 10/045,345
	Applicant(s): Derderian et al.	Confirmation No.: 1310
	Application Filing Date: October 25, 2001	Group: 2818
	Supplemental Information Disclosure Statement mailed: June <u>25</u> , 2003	

## U.S. PATENT DOCUMENTS

Examiner Initial	Copies Enclosed	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
PD	X	4,953,989	09/04/90	Hooykaas	—	—	

## FOREIGN PATENT DOCUMENTS

Examiner Initial	Copies Enclosed	Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No

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